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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,951	03/23/2007	Young-Chol Yang	PNK0341US	1975

23413 7590 06/08/2010  
CANTOR COLBURN, LLP  
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Hartford, CT 06103

EXAMINER
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SAJOUS, WESNER

ART UNIT	PAPER NUMBER
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2628

NOTIFICATION DATE	DELIVERY MODE
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06/08/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,951	<b>Applicant(s)</b> YANG ET AL.	
	<b>Examiner</b> Sajous Wesner	<b>Art Unit</b> 2628	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-16 is/are allowed.
- 6) ☒ Claim(s) 1-11, 17-19, 25, 26 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 20-24, 27 and 32-34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/22/06, 7/31/07, 1/17/08, 3/31/10, &amp; 4/27/10</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

This is a first action on the merit. Claims 1-34 are presented for examination.

#### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-11 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. The claim does not claim a physical transformation or a machine in the method steps. The suggested language in the preamble of the claim 1 that image signals are converted for a display device is not sufficient to meet the requirement for a specific machine. The implication of a display device in the preamble with no connection

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with the body of the claim is merely an insignificant extra-solution activity. Neither any specific machine nor the claimed rendering is physically transformed to a different state or thing merely because the claimed method appears to use a software implementing the steps of decomposing, determining, calculating and extracting steps. The mere implication of a display device to collect data and/or to process data necessary for application of the mental process may not make the claim patentable subject matter. As Comiskey recognized, "the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter. No specific machine is physically transformed to a different state or thing merely because the claimed method appear to use a software implementing the method steps as evidenced in the claim 1 and claim 15.

Claims 2-11 are non-statutory for the same reasons discussed above.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 17-19 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent No. 9-251160 A (hereinafter Taketo et al.)

As per claims 17-19 and 26, Taketo discloses that one picture element is formed of six sub-picture elements. Display colors of the six sub picture-elements are the combination of red, green, blue, yellow, magenta and cyan and are arranged in matrix of row or column. See abstract and paragraphs 31-35. Figure 1 in Taketo depicts a picture element consisting of 6 sub picture elements where magenta and green having complementary relation is adjacent to each other; and the sub-pixels are arranged in a 2x3 or 3x2 matrix and the first and the second sets of the three primary color sub-pixels are arranged in row or column.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 25, 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taketo et al. in view of Brown Elliott (US 20090102855).

Considering claim 25, Taketo fails to teach primary color subpixels including a white subpixel, which is disclosed by Brown Elliott (see paragraph 66, and fig. 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Taketo to include white subpixel

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in a set of primary color subpixel; in order to achieve high brightness performance of the display (see paragraph 20 of Elliott).

As per claims 28-31, Taketo discloses display colors of the six sub picture-elements are the combination of red, green, blue, yellow, magenta and cyan and are arranged in matrix of row or column. See abstract and paragraphs 31-35. Figure 1 in Taketo depicts a picture element consisting of 6 sub picture elements where magenta and green having complementary relation is adjacent to each other; and the sub-pixels are arranged in a 2x3 or 3x2 matrix and the first and the second sets of the three primary color sub-pixels are arranged in row or column, with the blue subpixel disposed on the side and the green subpixel disposed at the center.

### ***Allowable Subject Matter***

7. Claims 20-24, 27, 32-34 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-11 would be allowed if amended to overcome the 101 rejections set forth above.

Claims 12-16 are allowed over the prior art.

### **Reasons for Indicating Allowable Subject Matters**

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8. Taketo, the closest prior art, discloses a reflection-type color display device capable of recognizing full color display where each picture element is formed of six subpixel elements. The method and the device of converting image signals for a display device including six-color subpixels according to Claims 1 and 12 comprises the following functions: classifying three-color input signals; decomposing the classified signals into six-color components; and extracting six-color output signals (claim 1); a signal controller converting three-color input signals into six-color output signals; a gray voltage generator generating a plurality of gray voltages; and a data driver converting the six-color signals into data voltages selected among the gray voltages and supplying the data voltages to the subpixels, wherein the signal controller comprises: a magnitude comparator comparing the three-color signals; a decomposer decomposing the three-color signals into six-color components; a scaler calculating a scaling factor based on signals from the magnitude comparator and the decomposer; and a signal extractor multiplying the scaling factor to the six-color components (claim 12) that are not disclosed in Taketo. The device according to Claim 20 differs from that of D in that a subpixel having the lowest luminance is disposed to a side.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are as recited in the attached PTO-892 form.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sajous Wesner whose telephone number is 571-272-7791. The examiner can normally be reached on M-F 9:15-6:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on 571-272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sajous Wesner/  
Primary Examiner, Art Unit 2628

WS  
6/3/2010